

ORIGINAL ARTICLE

Use of complementary therapies and non-prescribed medication in patients with Parkinson's disease

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Postgrad Med J 2002;**78**:612-614

Patients with Parkinson's disease resort to complementary therapy and non-prescribed medication in the hope of improving their quality of life. In the US 40% of patients with Parkinson's disease reported the use of at least one form of complementary therapy for Parkinson's disease. Data for the UK are limited. A structured questionnaire was administered to consecutive patients attending a Parkinson's disease clinic. Patients were excluded if they were cognitively impaired, if they were living in an institution, or if they declined to take part. The participants were asked about current and previous use of complementary therapy in general and Parkinson's disease in particular and were presented with an extensive list of complementary therapies and non-prescribed medications. The response rate was 90% and 80 patients met the inclusion criteria.

Fifty four per cent (n=44) reported the use of at least one form of complementary therapy or non-prescribed medication either for Parkinson's disease or for some other indication, of whom 31 (38.7% of the total sample) used it solely for the treatment of Parkinson's disease. The most commonly used complementary therapies for Parkinson's disease were massage (n=9) and aromatherapy (n=8). Non-prescribed medication was mainly used for indications other than Parkinson's disease and the commonest drugs used were simple analgesics (n=7), cod liver oil (n=5), and multivitamins (n=4). The use of complementary therapy for Parkinson's disease correlated significantly (Pearson's $r=0.44$, $p=0.01$) with a younger age at diagnosis of Parkinson's disease. Comorbidity correlated significantly with complementary therapy use for indications other than Parkinson's disease (Pearson's $r=0.29$, $p=0.01$).

The use of complementary therapy for Parkinson's disease in this UK based clinic closely mimics that in the US. Non-pharmacological complementary therapy is mainly used for Parkinson's disease, while non-prescribed medication is more commonly used for other indications.

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Submitted 18 March 2002
Accepted 22 July 2002

Increasingly many medical professionals regard alternative therapies as complementary to conventional medicine. Alternative therapy can be defined as a treatment used based on belief rather than on scientific proof of efficacy.¹ For the purpose of this survey alternative therapy will be referred to as complementary therapy as patients were still using the conventional therapy in parallel to the alternative therapy.

Twenty per cent of British adults use at least one form of complementary therapy for a series of bothersome medical conditions or to improve their wellbeing.² Alternative therapy in the UK is mainly used to help relieve injury, as a mode of relaxation, for general wellbeing, or as an alternative to conventional medicine. Only 11% of complementary therapy users had this treatment recommended by a doctor.

In a survey of patients attending a general elderly care outpatient clinic in the UK,³ it was found that 52% of the group sampled were using non-prescribed medication, while 40% were using complementary therapies. Another UK based survey on patients with parkinsonism showed that 19% had tried one or more complementary therapies.⁴ A survey carried out by the Parkinson's Disease Society, UK,⁵ showed that 34.9% of patients (the majority of whom were aged <65 years) had experienced complementary therapy in relation to Parkinson's disease. However the response rate in this survey was very poor at 9.1% and so this result may be biased.

In a recent study in the United States, 40% of patients with Parkinson's disease reported the use of at least one form of alternative therapy to treat the disease.⁶

PATIENTS AND METHODS

A structured questionnaire was administered by either direct or telephone interview. The questionnaire explored the use of

different modalities of complementary therapies in consecutive patients with a diagnosis of Parkinson's disease. The patients were recruited from Parkinson's disease clinics in Birmingham—namely, Heartlands Hospital, Queen Elizabeth Hospital, Moseley Hall Hospital, and Newcross Hospital between June and October, 2001.

The participants were interviewed by either of two of the authors (PF, MJ). Patients were excluded if they were cognitively impaired (abbreviated mental test <7⁷), if they were living in an institution at the time of the study, or if they declined to take part in the study.

The participants were asked about the current and previous use of complementary therapies in general and for the treatment of Parkinson's disease in particular. If the patients indicated that they only used a particular type of complementary therapy for an indication other than for Parkinson's disease, then they were asked to comment on the particular indication.

The participants were presented with an extensive list of non-prescribed medications including analgesics, alcohol for therapeutic use, laxatives, vitamins, herbal preparations, and nutritional supplements. The participants were then asked to respond about their use of therapies such as massage, tai chi, yoga, maharishi, biofeedback, acupuncture, auriculotherapy, reflexology, music therapy, homoeopathy, aromatherapy, osteopathy, and transcutaneous electrical nerve stimulation (TENS). They were also given the option to name any other therapy that they use which was not on the list. If a patient did not understand an item on the list, a standardised explanation of the therapy was provided.

In order to be included in the definition of "complementary therapy" for the purpose of this study, the therapy had to be

Table 1 Table showing characteristics of the study population (n=80)

Characteristic	Values
Mean (SD) age in years [range]	69.0 (10.2) [47.0–87.0]
Gender (%)	
Male	46 (57.5)
Female	34 (42.5)
Ethnic group (%)	
White	79 (98.8)
Other	1 (1.3)
Mean (SD) age in years at diagnosis of Parkinson's disease [range]	60.1 (11.5) [36.0–83.0]
Mean (SD) duration of Parkinson's disease [range]	9.0 (5.9) [1.0–26.0]
Mean Hoehn and Yahr score [range]	2.6 [0–5]
Mean (SD) number of comorbidities [range]	1.6 (1.3) [0–6]

initiated on the patient's own initiative as opposed to being suggested by their doctor or healthcare professional.

Demographic data including the patient's ethnic group, age at the time of the study, age at first diagnosis with Parkinson's disease, the number of years with the diagnosis, and patients' gender were all collected. Further data including the Hoehn and Yahr score⁸ and the number of comorbid illnesses were also recorded.

Statistics

The data was analysed using SPSS for Windows version 7.5. Descriptive statistics were used to characterise the data. The two tailed *t* test was used to test statistical differences in the patients who used complementary therapy for Parkinson's disease and those who used it for other indications. Pearson's correlation was used to determine which variables correlated significantly ($p < 0.01$) with the use of complementary therapy. Logistic regression analysis was used to determine which covariates remain significant after controlling for the other variables.

RESULTS

The total number of patients originally considered for the study was 109, but one patient declined to participate and 10 could not be contacted by phone thus making the response rate 90%. Out of 98 patients who agreed to take part in the study, 18 patients were excluded, 11 of whom were deemed cognitively impaired, and seven were living in an institution.

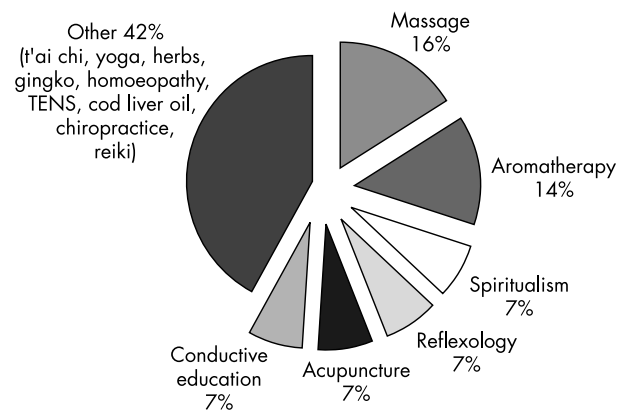
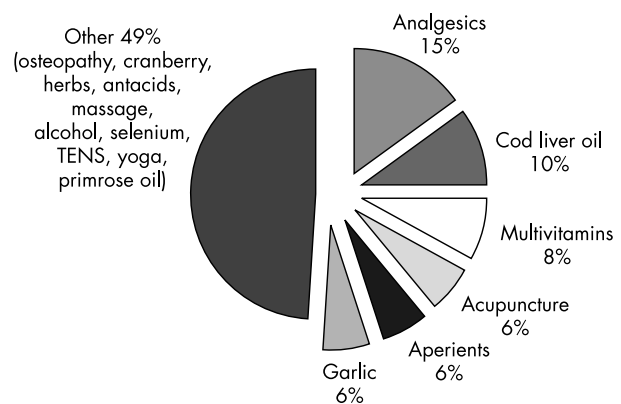
The dataset was complete for the 80 patients who met the inclusion criteria and the summary characteristics of the participants are shown in table 1.

Forty four (54%) of patients reported the use of at least one form of complementary therapy either for the treatment of Parkinson's disease or for some other indication. Out of this group, 31 patients (38.7% of the total sample) reported the use of at least one form of complementary therapy solely for the treatment of Parkinson's disease. Of the latter, 19.4% reported using two therapies and a further 19.4% reported using more than two.

The most commonly used complementary therapies for Parkinson's disease were massage (n=9, 15.8%), aromatherapy (n=8, 14.0%), and spiritualism, reflexology, acupuncture, and conductive education (all at n=4, 7.0%) (fig 1).

Twenty nine patients (27.6%) reported the use of at least one form of complementary therapy for an indication other than Parkinson's disease. Of the latter, eight (27.6%) reported using two therapies and five (17.2%) reported using more than two.

The most commonly used complementary therapies and non-prescribed medication for other indications than Parkinson's disease were simple analgesics (n=7, 14.6%), cod liver oil

**Figure 1** Types of complementary therapies used for Parkinson's disease.**Figure 2** Types of complementary therapy and non-prescribed medication used for other indications.

(n=5, 10.4%), multivitamins (n=4, 8.3%), and acupuncture, aperients, and garlic tablets (all at n=3, 6.3%) (fig 2).

The commonest reasons for having complementary therapy other than for Parkinson's disease were "use as a tonic" and for various aches and pains.

Demographic factors and complementary therapy for Parkinson's disease

The use of complementary therapy for Parkinson's disease correlated significantly (Pearson's correlation -0.46 , $p=0.01$) with a younger age of Parkinson's disease patients but there was no correlation with gender. No comment could be made on the relationship with ethnic minority usage because the latter made up only 1.3% of the sample.

Disease specific factors and complementary therapy for Parkinson's disease

The use of complementary therapy for Parkinson's disease correlated significantly (Pearson's correlation -0.44 , $p=0.01$) with a younger age at diagnosis of Parkinson's disease; however, there was no correlation with the duration, the Hoehn and Yahr score, and the number of comorbid illnesses.

Using logistic regression models, patients' age and patient's age at diagnosis were the most significant predictors of complementary therapy used for Parkinson's disease, with patients' age being the most robust figure ($p < 0.0001$).

Demographic and disease specific factors and complementary therapy for other indications other than Parkinson's disease

The group of patients who was using complementary therapy for Parkinson's disease was significantly younger than the

group using it for other indications (64 years compared with 68 years, $p=0.0001$).

The use of complementary therapy for other indications than Parkinson's disease was significantly, though weakly correlated (Pearson's correlation 0.29, $p=0.01$) with the number of comorbid illnesses in the Parkinson's disease patients. Using logistic regression models, comorbidity was the only statistically significant covariate ($p=0.006$). There was, however, no correlation between the use of complementary therapy for other conditions than Parkinson's disease and the Parkinson's disease patients' age and gender.

DISCUSSION

The similarity in prevalence of complementary therapy and non-prescribed medication usage among patients with Parkinson's disease in this study (54%) with that of elderly patients in another study (52%),³ raises the suspicion that the result obtained reflects the usage of complementary therapy/non-prescribed medication in the general population and is thus not unique to Parkinson's disease. However, comparison with the prevalence of 20% from the BBC survey² suggests that this is unlikely to be the case.

Thirty nine per cent of patients with Parkinson's disease used at least one form of complementary therapy in our study. This is in agreement with a similar study done in the US, where the figure was 40%.⁶

The variable that correlated strongest with the use of complementary therapy for Parkinson's disease was patients' age, followed by patients' age at diagnosis. This is also in agreement with a similar study done in the US where the strongest correlate was age at onset of Parkinson's disease followed by age itself.⁶ Other studies confirm that younger adults use complementary therapy more frequently.^{2,9,10}

Similarly to the US study,⁶ there was no correlation between complementary therapy use for Parkinson's disease and disease severity, as measured by the Hoehn and Yahr scale and this might indicate that complementary therapy was being used to complement rather than as alternative to conventional therapy and that the latter therapy was effective. Also, as found in the US study,⁶ there was no correlation between complementary therapy use for Parkinson's disease and gender and race.

Most patients were only using one form of complementary therapy for Parkinson's disease, with the commonest agents being massage and aromatherapy. This is important as it seems that patients with Parkinson's disease were not primarily using pharmacologically-active complementary therapy, thus making the possibility of either drug interactions or adverse effects less likely. This finding is different to the US based study in which vitamins and herbs were found to be the commonest forms of complementary therapies used.⁶

In our study, 35% of the sample of patients were using complementary therapy for indications other than Parkinson's disease. The majority of these patients were using only one form of complementary therapy.

The most commonly used form of complementary therapies in this group of patients were non-prescribed medications such as simple analgesics, cod liver oil, and vitamins (fig 2). As these are pharmacological agents, there may be some concerns about drug interactions and adverse drug events from these drugs.

It is interesting to note that the commonest reason for which Parkinson's disease patients resort to complementary therapy use (apart from Parkinson's disease) is "as a tonic" and for various aches and pains. This might indicate that patients with Parkinson's disease were unknowingly searching for help for undiagnosed depression (which commonly complicates the disease) and that some of the aches and pains listed were actually part of the syndrome of Parkinson's disease symptomatology.

Older patients with Parkinson's disease were using complementary therapy for conditions other than Parkinson's disease probably because of the presence of more comorbidity. Thus, unsurprisingly there was a statistically significant, though weak correlation between the use of complementary therapy for reasons other than Parkinson's disease and the number of comorbid illnesses.

It thus can be concluded from the findings of this study that younger patients with Parkinson's disease and those patients diagnosed at a younger age were the commonest users of complementary therapy for the disease. However Parkinson's disease patients with multiple comorbidities were using complementary therapies for other reasons than in greater numbers than patients with Parkinson's disease alone.

As complementary therapy is so commonly used in Parkinson's disease patients, it should be part of the physician's routine assessment to ask for a complementary therapy history in a patient with Parkinson's disease. It has been shown that most often physicians are not aware of this information.⁶ Equipped with this information, doctors prescribing drugs to patients taking complementary therapy should consider strategies for minimising risk of possible drug interactions. Doctors may also ensure that their patients' choice of complementary therapy or non-prescription medication is in their patients' best interests. The key to achieving such a practice is to maintain an open, clear, and effective communication with both patients and complementary practitioners.¹¹

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